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THE
PLOTTER

COMPUTING THE FUTURE--
IN CLACKAMAS COUNTY

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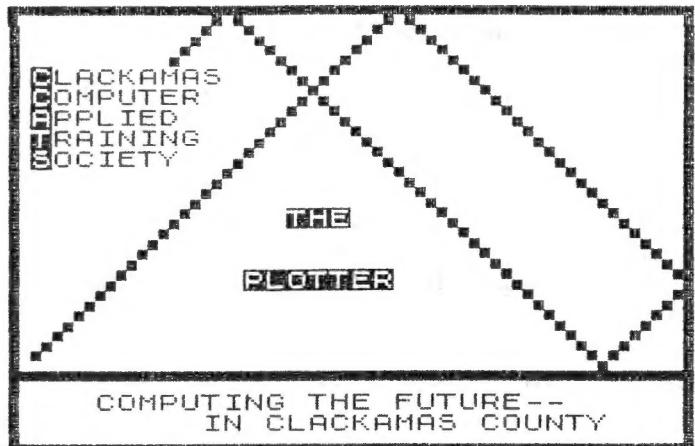
MEETING

The APRIL meeting will be:

on: SUN., APRIL 18 1993

MEETING   open at: 1:00 P.M.
in: COMMUNITY ROOM
    FAR WEST FEDERAL BANK
    OREGON CITY SHOPPING CENTER

WHAT YOU WILL FIND IN THIS ISSUE:

FROM THE EDITOR'S DESK

Changing printers to a more sophisticated model has its trials. The manual for my Epson LQ-570 leaves much to be desired, not in the mechanical end but the printing coding becomes a puzzle at times. I was all set to print out the first page of our newsletter when I realized that Jack Dohany's graphic printer drivers (Gysy, USE9, etc) were not set up for this new printer. So I set up the old Panasonic printer and did the graphic chart. Changing back to MSCRIPT with the Epson, I realized that the printing of the title, etc. would print properly but the graphic symbols might be a problem. Yes, I would have to delve into the procedure for printing the double width symbols. At this late hour it was too much to tangle with so back to the old printer. Just another problem to work on.

There will probably be one more page of POKES, ETC after this month. Surprising how many there are. Some are quite useful while others are more of an oddity, but who knows, a reader just might want one or more.
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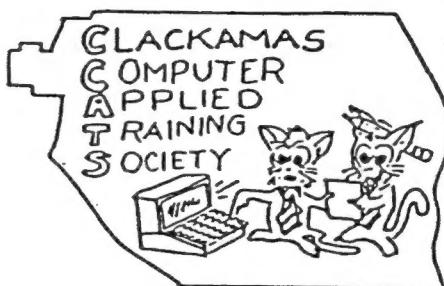
I continue to run across programs and utilities for GWBASIC for the IBM like computers. A problem is that so many are in books that have a first page statement that warns against copying by any means. This puzzles me, the authors expect readers to use the programs so can I copy them? The warnings often include storage devices. It seems to me that this legal stuff is so broad that it defeats its own purpose.

Hopefully, our little group will be back to regular meetings in a couple of months. Then I can have some minutes to include in the news letter. Surprising the different things that get discussed, most of which can be included in the minutes.

BITS & BYTES
by: Rod Gowen

In this column I try to bring you the latest and complete information and news available to me regarding the world of TS computing. One way that I can accomplish this is if I have the support of you, the reader, in collecting news that may be of interest to other readers. If you have any news, rumors or other tidbits of information that fits this description, why not send it along? We will be watching!

MARCH MEETING---
was a huge success as compared to the last 2 or 3 meetings. Six members were present to work on the book project for a couple of hours. Hopefully, we are nearing completion on the paste-up portion of the project.

I know there are a few of you out there who are eagerly awaiting the book. Please don't give up on us, we will get it done--sooner or later!

PAID MEMBER LIST:

BOB EVANS
BOB GEROW
DUANE HEWITT
DICK WAGNER

BILL DUNLOP
ALICE DUNLOP
ROD GOWEN
DON MALM
JACK ARMSTRONG

If you are a paid subscriber, do not fear! You will be notified when your subscription is running out. All user groups on our exchange list will continue to receive THE PLOTTER as long as we receive one of your newsletters at least every 80 days. If we have not received a newsletter for more than 90 days,

RMG MUST MOVE!--------------
After more than 10 years in the computer mail-order business and 15 years in business as RMG Enterprises, we find that the house that we have lived in for 23 years is being sold out from under us! So we are now scrambling to find a new home. If you have orders pending or have written to RMG or CCATS at the address on the back of this newsletter, do not think that you have been forgotten if it takes a few weeks for things to get back to you. We will do our best to keep the move from disrupting service, but no move is ever without its problems. Watch for the new address on the newsletter and RMG will be sending out ads to all of the other newsletters and operating user groups with our new address on it. We will keep a forwarding order in effect for 1 year so as not to lose any letters or cause you any inconvenience.

APRIL MEETING ON SUNDAY---------
We will meet on April 18th, the 3rd Sunday of April, from 1-4 PM. We hope to see as many of you there as can make it. We should be getting close to finalizing the paste-up of the book.

PLOTTER INDEX PROJECT-----
is still being pursued. With the advent of our having to move, the time available to work on it will be limited. Our club library will also be making a move to a new home as well. Bill Dunlop has agreed to take it in and give it a new home. Perhaps this will even mean that we

may see a complete index to our library resources some day? (One can always dream.) Thanks Bill! I know that my new place of residence would not have the space to permit me to keep it.

We will continue the PLotter index and when finished, will make it available to any who may wish a copy.

That's it for now!
See you next time. . .

CHECK DISK DRIVE SPEED

Dick Wagner

Don Lambert, in a letter to Rod Gowan (RMG Enterprises) included a program to run tests on disk drive controllers that use the 1770 chip. Don draws heavily on late Bill Pedersen knowledge and experience, having worked with him on this program for the 2068. At this time, programs for Larken and Oliger drives are functional. Don hopes to develop the correct data for other drives using the 1770 controller chip.

The following Larken program determines, prints the data, and graphs the drive speed for the first 8 revolutions from start up. The graph lines are 298, 299, and 300 which gives good resolution. According to Don, the last 5 or 6 revolutions of the 8 are the most important. He considers the values should be between 295 and 300. I have heard that it is desireable to be within 1% of 300 RPMs for the best consistant performance. "Tired" drives and old outdated machines are suspect if they do not give consistant results.

I have added the proper SAVE line for Oliger systems that I received when I orders Bill's printed circuit board designer program (CAD). According to Don, to have this program work properly for Larken systems, the 9th number in line 102 should be 253, while for Oliger systems this number should be 254.

Don suspects this number is the key to having the program work properly for other drive systems.

I suggest revising line number 530 to print out the drive number with the addition to the end, :PRINT "Drive NO. ";w. Oliger systems would use line 9999 CLEAR: SAVE //"DISKSPEED" LINE 1.

```
  5 RESTORE 101: FOR n=39936 TO
40007: READ w: POKE n,w: NEXT n
101 DATA 243,33,72,156,1,143,0,
62,208,237,121,16,-2,205,56,156,
205,56,156,48,-5,205,56,156,56,-
5,6,8,197,17,0,0,205,51,156,48,-
5,205,51,156,56,-5,115,35,114,35
,193,16,-21,251,201
102 DATA 6,1,16,-2,19,62,127,21
9,254,246,224,60,40,2,207,20,237
,120,31,31,201,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0
500 CLS : PRINT " WIDJUP DISK
TESTING SERVICES      DISK SPEE
D MEASUREMENT","" 
520 PRINT '" The drive you se
lect will be  tested for acceler
ation and      sustained speed."'
"    Before proceeding, place a
  disk in your selected drive an
d close its door."
530 INPUT "Which drive? (0 TO 3
) ";w
531 OUT 183,0: PAUSE 60: OUT 18
3,2^W: OUT 143,0
532 LET w=USR 39936
533 INK 1: PLOT 100,81: DRAW 15
0,0: PLOT 100,72: DRAW 150,0: PL
OT 100,63: DRAW 150,0: INK 0
534 PRINT '"Turn  RPM": ON ERR
GO TO 548: FOR n=40008 TO 40023
STEP 2: LET w=PEEK n+256*PEEK (n
+1)
535 LET w$=STR$ (1605000/w)
536 IF LEN w$>6 THEN LET w$=w$(
TO 6)
537 PRINT "   ";n/2-20003;"  ";w
$
538 INK 1: PLOT 8*(n-39994),70+
2.5*(VAL w$-300): DRAW 2,0: DRAW
0,4: DRAW -4,0: DRAW 0,-4: DRAW
2,0: INK 0
548 NEXT n: ON ERR RESET
550 PRINT ''"      PRESS ANY KEY
TO CONTINUE   ": PAUSE 0
9999 CLEAR : RANDOMIZE USR 100:
SAVE "DskSpd.B1" LINE 1
```

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BOOK(S) REVIEW

Dick F. Wagner

There are books written on all kinds of computer subjects. An interesting subject to programmers is subroutines that save time, make a program more understandable, and provides programming ideas.

Back in the early days of Timex/Sinclair computer there were many small books published covering subjects that hopefully would interest readers and T/S BASIC users. One such book was written on the subject of subroutines called "GOSUB 100 Programs-Building Subroutines in Timex/ Sinclair Basic". This was published by McGraw-Hill Books Co, in 1984 and the authors were Ewin and Shirley Gaby.

The authors were interested in presenting the subject of subroutines to inexperienced programmers so many details were presented that experienced programmers would take for granted. There are quite a few general subjects such as Area and Volume, Conversion (many subjects), Statistics, Business, Maximum, Minimum and Sequences, INKEY$ and SCROLL, Graphing, and Tables. There are 100 routines in all of these catagories.

This book offers the user an opportunity to either use the short programs as subroutines or complete programs. Line numbers are prefixed with X, indicating the programmer is to use his/her own line numbering within a program. Many of the programs can be used by the 2068 user as very few have memory addressing or calling of an address.

Use explanation is good so the programmer can gain useful information on programming technique.

A second subroutine book is "The Most Popular Subroutines In BASIC" by Ken Tracton. This is published by TAB Books and is no. 1050. The author has very abbreviated routines that can be nicely fitted into programs. He has run tests on most of them, printing both the input and outputs so the user can check the correctness of his/her work. The purpose, variables needed, altered and or returned, and the equation for each is provided--very handy and thoughtful.

There are about 125 routines and 23 actual programs that include actual subroutines so the user can see just how the programming is done. The basic subjects include Annuities and Compound Amounts, Conversion (52 subjects), Degrees, Grads and Radians, Electronics, Random Numbers, Hyperbolics, Inertia, Mathamatics, Physics, Sequencing, Trajectory, Value Generator, Values, Vectors, and examples.

I notice that the conversion of the mundane subject of cooking measures is not covered. Too bad as that is a useful subject for cooks and the world of recipes.

My last book is a 1985 book titled "IBM PC & PCjr Subroutine Cookbook" by author David Busch, a Brady Book published by Prentice-Hall.

Subject catagories are Subroutine Magic, BASIC Tricks, Data, Input, Editing, and Output, Using the Clock and Interupts, Business and Financial Subroutines, Bits and Bytes, Joysticks and Paddles, Using Sound, and Game routines.

The author has written for the less experienced user, covering line description, how to use, variables, and sample uses or applications. In many cases these short routines can stand alone as programs for one time use.

In the authors words, "This book is meant for all of you. There are some useful general routines included here. This book bristles with modules designed specifically to perform some sorely needed task for the IBM PC and PCjr alone."

Recently priced at $2.00 at Book Warehouse stores, 200+ pages!

the plotter
pc page
by: Rod Gowen

Here we go with part two of my series on OS/2, as promised! I hope that some of you are enjoying these ramblings. I would feel a lot better if I were to hear from some of you once in awhile.

My first look at OS/2 really gave me a shock! 21 1.44Mb disks to the Install package! If you are contemplating trying OS/2, be sure that you have the MINIMUM configuration in a computer! And I do mean CONFIGURATION!. It requires at least a 386 with at least 6 Mbytes of RAM (10 is better, 16-20 best) and it will eat up from 15-35 Mbytes of your hard drive space, depending upon what parts of the system you want to install. If you get by all of this, and are still interested, for whatever reason, keep reading!

I had the 386, 20 Mbytes of RAm and I had just purchased a new hard drive of 120 Mbytes. I thought I was all set. I backed up my system and proceeded to start the install process. Of course, you can be sure that these "brilliant" programmers set up the install program to come up with white paper and several colors of ink, ranging from gray to yellow to blue and black. Not to mention the incredible garish magenta error screens with green or blue ink! AND NO WAY TO CHANGE COLORS! Oh well, just my own pet peeve. I had to get someone else to read the screens to me as I progressed through the long process.

All went well (or so I thought) right up until diskette 5. Then the program asked for the install disk again and told me that the system would now restart. Upon striking a key, it did. It never made it! I got 2 error codes on the screen and one of them was not covered in the error list in the guide. Luckily, IBM is kind enough to give OS/2 users an 800 number for help and 60 days of FREE on line help. I got on the phone at once!

After about 2 hours of talking to various "technicians" at IBM, I had gotten no farther in my attempts to install OS/2 during the first week.

At this time, I received a call from an old customer who wanted to buy a 100+ Mbyte hard drive. I was able to find a larger drive for my own system (256 Mbytes) and told him that I would give him a good price and take his old 40 Mbyte drive in on trade toward the 120 that I was using. He took it and I awaited the new drive to continue with my OS/2 trip.

In part three we will continue with what occurred after the new drive was installed into the system.

See you then!

GET AND PUT IN GWBASIC
Dick Wagner

Several years ago The Plotter ran a series of article/programs by Michael J. Di Rienzo. He had developed a utility to generate the same results as GET and PUT do in GWBASIC. This was my first exposure to these two commands.

GWBASIC provides the method for saving a defined and DIMentioned screen image and then reprinting it at a desired location. The desired location is given in screen pixel locations, the location being given in x and y coordinates, these coordinates being the top left corner of the location.

DIM(a) is the reserved memory for the defined image. If DIM(a) is short then the program will not work. It is better to be on the safe side and then reducing it if possible after getting a program to work properly.

Listing 1 simply prints 3 letters at the top left corner of the screen, and then reprints them at location 100,100. Listing 2 also uses 3 letters and then selectively prints the center letter at location 100,100. The fun program is listing 3. It prints a letter at the top of the screen and a square several lines below the letter. These characters could be at any suitable locations. On RUN the two images are deleted from the screen and appear 100,98, combined with the letter in the square.

I haven't tried copying the screen with these programs. Maybe a reader will provide the method for making a hard copy. I know that Print Screen commands will not copy graphic figures. Maybe this command will work if the printer is set in graphic mode.

The commands GET and PUT have the potential for producing a moving message, logo, or other screen image. We will be pleased to print programs from our readers on this subject.

```
10 'LISTING 1
20 'GET AND PUT COMMANDS
30 SCREEN 1
40 DIM LETTERS(27)
50 LOCATE 1,1
60 CLS
70 PRINT "ABC"
80 FOR N=1 TO 10000: NEXT
90 GET (0,0)-(22,7), LETTERS
100 CLS
110 PUT (100,100), LETTERS
120 END


10 'LISTING 2
20 'GET AND PUT COMMANDS
30 SCREEN 1
40 DIM LETTER(9)
50 LOCATE 1,1
60 CLS
70 PRINT "ABC"
80 FOR N=1 TO 10000: NEXT
90 GET (8,0)-(15,7), LETTER
100 CLS
110 PUT (100,100), LETTER
120 END
```

```
10 'LISTING 3
20 'USING GET AND PUT COMMANDS
30 SCREEN 1
40 DIM SQUARE(11)
50 LINE (62,15)-(71,15)
60 LINE -(71,26)
70 LINE -(62,26)
80 LINE -(62,15)
90 DIM LETTER(9)
100 LOCATE 1,9
110 PRINT "A"
120 FOR N=1 TO 10000: NEXT
130 GET (62,15)-(71,26), SQUARE
140 GET (62,0)-(70,8), LETTER
150 CLS
160 PUT (100,98), SQUARE
170 PUT (100,100), LETTER
180 END
```

POKES, ETC FOR THE 2068

Dick F. Wagner

An error in the March page of POKES needs a correction. The last one was RANDOMIZE 0, it should have been RANDOMIZE USR 0.

Let's add some more to our list.

POKE 23561,# (#=1 to 35)
Time that a key must be held down before it repeats. Try 10-15 for test.

POKE 23562,# (#=1 to 5)
Delay between successive repeats of a key held down. Try 3 for text.

USR 15002
May help get out of an infinite loop without crashing.

DIM A$(704)
PRINT AT 0,0; OVER 1;
PAPER; INK 6; A$
Allows a change of PAPER and INK COLOR without clearing the screen.

PRINT #1; AT 0,2; "HI
PRINT #1; AT ; "BY"
PAUSE 0
Prints on lines 22 and 23.

LOAD ""CODE
RAND USR 33792
For programs that will not load (tape?).

TO SEE IF 2040 PRINTER IS ON/OFF
```
1 REM FLASH CLS G THEN LN <>
9996 let prt=USR (5+PEEK
23635+256*PEEK 23636)
9997 IF prt>16383 THEN PRINT
"printer is off"
9998 IF prt<=16383 THEN PRINT
"printer on"
9999 STOP
```

PLOT (X1,Y1): DRAW(X2-X1), (Y2-Y1)
Draws a straight line between 2 points. Imitates absolute line command on other systems.

POKE 26692,83
Puts line EDIT at top of screen.

POKE 26692,75
Re-sets EDIT

Save a screen to address 57000 & instantly recall it. RAND USR 65300 to upload & RAND USR 65312 to recall.
```
1 REM SCREENSAVE
5 DATA 33,0,64,17,168,222,1,0,
27,237,176,201
10 DATA 33,168,222,17,0,64,1,0,
27, 237,176,201
20 FOR I=65300 TO 65323: READ
A: POKE I,A: NEXT I
30 STOP
```

PRINT 65536-USR 7962
Determine FREE memory in SPECTRUM mode

INVERT SCREEN DISPLAY
FOR N=16384 TO 22527: LET X=PEEK N: POKE N,255-X: NEXT N

COPY ALL 24 LINES TO PRINTER
RESTORE: FOR N=24500 TO 24505: READ X: POKE N,X: NEXT N: DATA 243,6,192,195,5,10
RAND USR 24500

POKE 23624,X
X=any ATTRIBUTE. On next key-board input the BORDER will take up the PAPER COLOR. Try a FLASHING ATTRIBUTE before a SAVE.

POKE 23730 & 23731 WITH RAMTOP
Resets RAMTOP w/o destroying variables that are not defined in the program.

TIME THAT PROGRAM HAS BEEN RUNNING
```
1 POKE 23672,0: POKE 23673,0
9999 PRINT INT ((PEEK 23672+256*
PEEK 23673+.5)*100/60.1145+.5)/
100
```
GOTO 9999 for elapse time in seconds

POKE 23561,0
Stops key repeat. May be useful in games & utilities.

POKE 23561,1
To disable keyboard as COPYRIGHT protection

POKE 23689,X
X=24 resets print position to top of screen. X=3-24 resets to any line on the screen.

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